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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/352,612 07/13/99 VAN VLIET A 102222.01

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IM52/1222

EXAMINER

ART UNIT	PAPER NUMBER
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1733

DATE MAILED:

3
12/22/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/352,612

Applicant(s)

VAN VLIET ET AL.

Examiner

Todd J. Kilkenney

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 9-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claims ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/202,069.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1 - 8, drawn to a grid, classified in class 442, subclass 50.
 - II. Claim 9 - 12, drawn to a process for manufacturing a grid, classified in class 156, subclass 290.

2. The inventions are distinct, each from the other because of the following reasons:
Inventions II and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by another and materially different process such as bonding the overlapping strips using a heated platen.

3. Because these inventions are distinct for the reasons given above and the search required for Group II is not required for Group I, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Melanie L. Mealy on November 20, 2000 a provisional election was made with traverse to prosecute the invention of I, claims 1 - 8.

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Affirmation of this election must be made by applicant in replying to this Office action.

Claims 9 – 12 are withdrawn from further consideration by the examiner, 37

CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 3 – 5, 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

There is a lack of antecedent basis throughout the claims as written. For example, in line 2 of claim 4, applicant is asked to delete the phrase “the angular points” and replace it with -- angular point --. In line 1 of claims 4 and 5, applicant is asked to omit “the width” and insert -- a width --. In claim 7, line 2, it is suggested applicant replace “the edge” with -- an edge --.

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Furthermore, in regard to claim 3, line 2, the terminology "angular points" is not clearly understood by examiner. It is believed that the angular points is meant to define bonding points close to the angles of intersection of the overlapping strips, or the corners. Applicant is asked to clarify.

In line 1 of claims 4 and 5, examiner suggests inserting the word -- bonding -- before the word "points" to better define the points or lines applicant is referring to.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1 – 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yang in view of Kobiella and Romanek. Yang teaches a grid constructed of polymer strips crossed over each other and bonded at zones of overlap. The polymer strips as taught by Yang are preferably polyolefins (Column 3, lines 6 – 7) and are crossed longitudinally and transversely. Yang teaches such grids are useful supporting structures for earthwork. The strips are bonded at their crossings by gluing, hot fusion, or otherwise (see Abstract). Yang does not teach pattern bonding or separated bonding lines/points within the zone of overlap. However, it is well known within the art to bond polymeric layers at separated fused regions as opposed to bonding the entire area as

taught for example by Romanek in US patent 4,265,954 and Kobiella in US patent 4,483,438.

Romanek teaches selective area fusion of non-woven fabrics containing thermoplastic fibers and bonding sheets of such fabrics together. Romanek recognizes sheets or webs bonded over their entire surface become too stiff for many applications (Column 1, lines 40 – 43). The patterned bonding areas as taught by Romanek are diagrammed in Figures 5 – 8. The bonding as taught by Romanek can be performed by exposing the regions to be fused to a source of heat energy in a variety of forms including infrared, microwave, dielectric radiation, hot air, hot gas, steam, and the like (Column 4, lines 35 – 40).

Kobiella teaches a film strap weld made for overlapping thermoplastic films. The weld comprises a plurality of spaced fused regions. Kobiella recognizes that fusing across the entire width of the overlap results in reduced flexibility. Bonding at spaced regions enables the bond to retain more tensile strength. As seen in Figure 2, Kobiella illustrates a plurality of separated bonding lines in the zone of overlap.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the separated bonding patterns as taught by Romanek and Kobiella to the overlapping polymeric strips of Yang to produce a grid with more flexible bonded regions, maintaining more tensile strength of the strips at the zones of overlap.

In regard to claim 2, Kobiella shows eight separated parallel bonding lines in Figure 2 and Romanek illustrates three parallel bonding lines in Figure 7.

In regard to claim 3, Romanek clearly illustrates bonding at the corners of the overlapping zones in Figures 5, 6, and 8. The bonding lines of Kobiella in Figure 2 are displayed on both edges of the overlap.

In regard to claims 4 and 5, Kobiella teaches the parallel bonding lines, or fused regions, to be 2.5 mm in width.

As to product claim 6, which fails to require a step of using a laser, this claim fails to define a materially different product from that suggested by the above applied prior art.

As to claim 7, the strength of the bond throughout the overlap can vary by the bonding pattern. Having more bonding points or lines towards the center of the overlap as compared to the edges will result in the center of the overlap having a stronger bond. Romanek teaches a variety of bonding patterns and mentions that a large number of variations can be employed to provide a variety of different physical characteristics of stretch and strength. Romanek further suggests that light or severe bonding may be carried out, depending upon the product being made (Column 6, lines 46 – 58).

10. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yang in view of Kobiella and Romanek and in further in view of Foglia et al. Yang in view of Kobiella and Romanek teach all the limitations of claim 1 as described in paragraph 9 above. Again, it is recognized that Romanek teaches many bonding means that do not involve direct contact means to produce the spaced fused regions in the overlapping polymer strips of Yang. However, Romanek does not specifically mention the use of

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lasers to weld. Foglia et al teach bonding thermoplastic resin films by means of radiation from a laser source. Foglia et al disclose the use of stimulated emission radiation by means of a laser to bond thermoplastic structures, films, sheets, strips, or the like (Column 1, lines 25 – 28). Foglia et al recognize bonding with lasers enables a welding area or spot to be of various sizes (Column 8, lines 28 – 43) and bonds can be formed in very short times (Column 1, lines 54 – 59). It would have been obvious to one of ordinary skill in the art at the time of the invention to employ the use of a laser as taught by Foglia et al to pattern bond the overlapping strips of the grid taught by Yang in view of Kobiella and Romanek in order to achieve the specific bonded regions in a very time efficient manner.

11. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yang in view of Kobiella and Romanek and in further view of Allport. Allport discloses grids of multiple layers in teaching a method for preparation of integrated nettings and laminates. Netting constructed of plastic warp and weft strands bonded together at their intersections are formed by initially spacing apart warp strands, overlapping weft strands to form right angle intersections, and then overlaying the first series of warp strands with a second series of warp strands (Figures 1 – 4). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a third strip or third ply as taught by Allport to the grid of Yang in view of Romanek and Kobiella so as to increase the overall strength of the grid.

12. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO 9747796 in view of Allport.

The subject matter in claim 8 is newly introduced matter in this continuation –in-part application having not been addressed in the parent application 09/202,069. The third strip is a feature that was not recited or adequately supported by a proper disclosure under 35 U.S.C 112 in the parent application and therefore is only entitled to the filing date of the current application, which is July 13, 1999. Foreign publication WO 9747796 is therefore found to be prior art under 35 U.S.C. 102 (b). Applicant is directed to MPEP 201.11 under the heading of “When not entitled to benefit of filing date” for further discussion.

The teaching of WO 9747796 discloses a grid made of polymeric strips bonded together in zones of overlap, wherein the zones of overlap have at least 2 spatially separated bonding lines. Allport teaches of a third strip in teaching of plastic netting as described above in paragraph 11. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine a third strip as taught by Allport to the grid as taught in WO 9747796 to thicken the grid providing it with an overall increase in strength and durability.

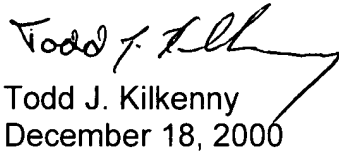
Conclusion

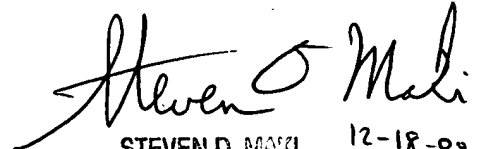
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Todd J. Kilkenny whose telephone number is (703) 305-6386. The examiner can normally be reached on Mon - Fri (9 - 5).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Ball can be reached on (703) 308-2058. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7718 for regular communications and (703) 305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.


Todd J. Kilkenny
December 18, 2000


STEVEN D. MAKI 12-18-00
PRIMARY EXAMINER
~~GROUP 1800~~
AU 1733